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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/925,909	08/09/2001	Takashige Ohta	70904-56377	4516

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EXAMINER

LIU, MING HUN

ART UNIT PAPER NUMBER

2675

DATE MAILED: 02/25/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/925,909

Applicant(s)

OHTA ET AL.

Examiner

Ming-Hun Liu

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 and 21-24 is/are rejected.
- 7) ☒ Claim(s) 20 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 7.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## DETAILED ACTION

### *Drawings*

1. Figures 3 and 4 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### *Claim Rejections - 35 USC § 112*

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Regarding claims 10 and 22-24, the phrase "if the number of tones" renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

### *Claim Rejections - 35 USC § 102*

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002

do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

5. Claims 1 and 2 are rejected under 35 U.S.C. 102(e) as being unpatentable by US Patent 6,426,670 to Tanaka.

In reference to claim 1, figure 1 of Tanaka shows a reference voltage chooser (item 13), where the first reference voltage is directly (v1 and v5) submitted to the selecting circuit.

In reference to claim 2, in addition to the circuit discussed in the rejection of claim 1, Tanaka also shows a second reference voltage produced through a voltage divider and then buffered to the selection circuit.

6. Claims 5 and 6 are rejected under 35 U.S.C. 102(e) as being unpatentable by US Patent 6,549,196 to Taguchi et al.

As to claims 5, figure 11 of Taguchi teaches a signal drive circuit with a voltage divider (item 6) division from at least two reference voltages (item 1) these voltages are presented to the selection circuit (item 3). A switch (item SW 11) controls the voltage division between the first and second voltages.

In reference to claim 6, by referring to figures 2 and 5, it can be seen that the switch is controlled in accordance to the image tone signal.

*Claim Rejections - 35 USC § 103*

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 3 are rejected under 35 U.S.C. 103(a) as being unpatentable by the combination of Tanaka and US Patent 6,580,359 to Tam.

In reference to claim 3, as demonstrated in the rejection of claim 2 the portions of the circuit claimed by the applicant have been known to the art, namely the first and second voltage connections to the voltage selection circuit. What remains to be absent from Tanaka's invention is the concept of energy conservation for inactive buffers.

Tam teaches that it is well known in the art that buffers consume power (column 1, line 20). Furthermore the purpose of Tam's invention is to improve on the selection of buffer control systems (column 2, line 4).

One skilled in the art could add a control directly to Tanaka's input buffers.

It would have been obvious to one skilled in the art to add a selectable input buffer control system in order to conserve power.

9. Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taguchi et al.

In reference to claim 7 and 8, it has been established above that Taguchi's invention utilizes a decoder to select the correct reference voltage (figure 11) and that the decoder corresponds to the image tones from the image signal. Taguchi however does not teach a decoder where the decode table can be modified.

Nonetheless, the idea of having a decoder with a plurality of possible decode tables is extremely conventional to the art. Such a concept cannot be considered novel.

One skilled in the art would have been motivated to add the capability of different decode methods to better accommodate the increase the versatility of interpreting and displaying image signals on the display.

10. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable by the Tanaka in view of Tam and further in view Taguchi et al.

In reference claim 4, the combination of Tanaka and Tam established the requirement for and input buffer control to a well-known voltage reference circuit. The exact relation between the control of the buffers and the gradation has not been established by either reference.

Taguchi teaches the selection of buffers for a gradation selection circuit much like the one claimed by the applicant. As seen in figure 8, a decoder 5 is used to help control the selection of the buffers. By referring to figures 2 and 5, it can be seen that the switch is controlled in accordance to the image tone signal.

One skilled in the art would have implemented Taguchi's selection method to properly turn on/off the switches in the voltage selection circuit.

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Claim 9 is rejected on the grounds argued in the rejection of claims 2-8.

Claims 11 and 13 are rejected largely on grounds argued in the rejection of claims 1-4.

As for the preamble, figure 4 of Taguchi demonstrates how the signal circuit is incorporated into the matrix display.

In reference to claims 12, 14, 16, 18 and 21 the references do not explicitly teach that this circuit must be used on portable devices. However, it is well known in the art that portable devices include LCD displays and also require power saving methods. It would have been obvious to one skilled in the art to include a display circuit as described by the combination of references onto a portable device because of its power saving advantages.

Claim 15 is rejected largely on grounds argued in the rejection of claims 5 and 6. As for the preamble, figure 4 of Taguchi demonstrates how the signal circuit is incorporated into the matrix display.

Claim 17 is rejected largely on grounds argued in the rejection of claims 7 and 8. As for the preamble, figure 4 of Taguchi demonstrates how the signal circuit is incorporated into the matrix display.

Claim 19 is rejected largely on grounds argued in the rejection of claim 9. As for the preamble, figure 4 of Taguchi demonstrates how the signal circuit is incorporated into the matrix display.

*Allowable Subject Matter*

11. Claim 20 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

*Conclusion*

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US Patent 6,677,923 to Kajihara et al. An invention extremely similar to the one being claimed. Contains selectable buffers and switches between voltage dividing circuit resistors.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ming-Hun Liu whose telephone number is 703-305-8488. The examiner can normally be reached on Mon-Fri.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Saras can be reached on 703-305-9720. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ming-Hun Liu

  
DENNIS-DOON CHOW  
PRIMARY EXAMINER